

# PEGASEM SAT100 Series

Satellite Based Vehicle Speed Sensor



## Features

- Non-contact measurement
- Speed acquisition from GPS
- Independent from weather conditions and road surface
- 100 Hz speed update rate
- Integrated 8-digit LCD display for satellites in view and vehicle speed (km/h or mph)
- Dead reckoning input for optional connection of a wheel or radar sensor
- Low signal latency (< 10ms)
- Pulse output
- Analogue speed output
- RS232 or CAN Interface
- Suction cup holder for the display on the windshield
- Active external antenna with magnetic foot
- Fits within seconds
- Excellent price/performance ratio



SAT100 receiver with integrated speed display, gooseneck holder and suction cup

## Applications

- Vehicle Speed Sensor for land, water and air
- Distance Measurement
- Brake Test
- Fuel Consumption Test
- Vehicle Sound Analysis
- Interval Marking
- Off-Road Test
- Vehicle Homologation

The SAT100 extends the scope of PEGASEM's speed sensor family to the satellite based devices. The SAT100 combines superior measuring precision used with 5<sup>th</sup> wheels with unsurpassed ease of mounting. This measuring principle offers the greatest independence from weather and road conditions. The only drawback for any satellite based speed sensor is the

requirement for a free sky view. For applications where this cannot be granted the SAT100 offers an auxiliary input to connect a wheel sensor (PEGASEM WSS) or a radar speed sensor (PEGASEM GSS). This allows care-free dead reckoning in situations with a limited or missing sky view.



SAT100 rear panel connectors

The auxiliary sensor is permanently recalibrated when the satellite receiver works under good signal conditions. With its integrated display the SAT100 offers an excellent price performance ratio for professional measurement applications. In many cases it can replace conventional speed sensors based on mechanics, optics or microwave. The digital frequency and analogue speed output offers an easy connection to most data acquisition units. The speed and

distance information is also available on the sensor's RS232 interface for linking it to a notebook computer by an optional SB1 or SB3 interface box. It comes with BNC sockets for speed pulses and analogue speed output, PWR IN and serial interface.

The PEGAVIEW software for MS Windows can display a graphical speed curve and record distance travelled from the sensor's serial port.

For easy transportation a case is available which carries the SAT100 receiver, antenna, gooseneck holder, cables and optional accessories, e.g. SB1 or SB3 interface box and GSS11 radar speed sensor for dead reckoning.



## Technical Data

Receiver and Display	Value	Unit	Comment
Size	124x43x24	mm	
Weight	190	grams	Without gooseneck holder
Power supply voltage	8 to 32	VDC	
Power supply current	typ. 100	mA	@ 12 VDC
Pulse output	TTL compatible		
Pulse rate	100	per m	
Speed error rate	< 0.2	km/h	Six or more satellites in view
Display	8	Digits	9 mm LCD characters Background illuminated
Display Resolution	0.1	km/h	
Analogue speed output	1	V per 100 km/h	Rate is user settable
Speed range	0.1 to 400	km/h	
Interface cable length	3	m	8 poles with open wires
Auxiliary input signal	Distance Pulses		TTL square wave from dead reckoning sensor (optional)
Aux input connector	Binder 711-8-Male		
Cold start delay	45	sec	Typical time delay for a valid speed signal after power up with no aux sensor connected.
Serial interface	RS232 USB CAN		See ordering information below An SB3 is required for USB
<b>External Antenna</b>			
Size	50x40x13	mm	Water resistant, magnetic base
Cable length	5	m	Fixed cable on antenna side, SMB connector on other side
<b>Optional Accessories</b>			
SB1	72x50x30	mm	3x BNC, 1x Power In, RS232 I/O
SB3	110x74x35	mm	3x BNC, 2x Power In, USB I/O
Transport case	46x38x15	cm	Black with red shutters

## Ordering Information

SAT100 Series	Comment
SAT101-OE-5	RS232 port, 5m Interface cable, open ends
SAT101-B712-5 <sup>1)2)</sup>	RS232 port, 5m cable, 8 wires, Binder connector B712-8
SAT102-OE-5	CAN port, 2 m interface cable, 8 wires, open ends
<b>Optional Accessories</b>	
SB1-xx-x <sup>3)</sup>	Signal box, RS232 I/F. Applicable for SAT101-x-B712
SB3-xx-x <sup>3)</sup>	Signal box, USB I/F, PEGAVIEW software. Applicable for SAT101-x-B712
CASE-SAT	Transport case for SAT100 and accessories
GSS11 <sup>4)</sup>	Radar dead reckoning sensor
WSS <sup>4)</sup>	Wheel speed dead reckoning sensor

<sup>1)</sup> Order this version, if SAT100 is used with one of PEGASEM's data acquisition units or a SPLITBOX.

<sup>2)</sup> For a non-standard cable length substitute -3- by the required length in metres.

<sup>3)</sup> For details and power cable options see SPLITBOX product sheet.

<sup>4)</sup> See GSS and WSS data sheets for details



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